ABSTRACT

A preferred embodiment comprises a method for obtaining predictive information (e.g., volatility) for inhomogeneous financial time series. Major steps of the method comprise the following: (1) financial market transaction data is electronically received by a computer over an electronic network; (2) the received financial market transaction data is electronically stored in a computer-readable medium accessible to the computer; (3) a time series z is constructed that models the received financial market transaction data; (4) an exponential moving average operator is constructed; (5) an iterated exponential moving average operator is constructed that is based on the exponential moving average operator; (6) a linear, time-translation-invariant, causal operator $\Omega[z]$ is constructed that is based on the iterated exponential moving average operator; (7) values of one or more predictive factors relating to the time series z and defined in terms of the operator $\Omega[z]$ are calculated by the computer; and (8) the values calculated by the computer are stored in a computer readable medium.